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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/970,682	10/05/2001	Jerome Fournier	Q66648	1857

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EXAMINER	
GRAY, JILL M	

ART UNIT	PAPER NUMBER
1774	

DATE MAILED: 06/24/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/970,682	FOURNIER ET AL.	
	Examiner	Art Unit	
	Jill M. Gray	1774	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *31 May 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *2-20, 23-34* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *2-20 and 23-34* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *10/05/01*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on May 31, 2005 has been entered.

Response to Amendment

The rejection of claims 2-17 and 20 under 35 U.S.C. 103(a) as being unpatentable over Zaopo et al, 769,287 in view of Keane et al, 4,503,124 is moot in view of applicants' amendments.

The indicated allowability of claim 19 and the subject matter of claims 21-22 is withdrawn upon further consideration and in view of the newly cited prior art.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 9-10 and 13 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for compounds of B, Al, Ti, Zn, Cr, and Fe that are oxides and nitrides, does not reasonably provide enablement for any compounds of B, Al, Ti, Zn, Cr, and Fe. The specification does not enable any person skilled in the art

to which it pertains, or with which it is most nearly connected, to make the invention commensurate in scope with these claims. In particular, the language of "compounds of B, Al, Ti, Zn, Cr, and Fe" embraces compounds not disclosed or suggested by the specification. The specification is specific to oxides and nitrides of B, Al, Ti, Zn, Cr, and Fe, and therefore is not commensurate in scope with claims 9-10 and 13.

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claim 11 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

More specifically, in claim 11 the language of "in which synthesis is performed" is vague because it is not clear what synthesis is being referred to. Claim 10 sets forth method steps of copolymerizing, adding and homogenizing. It is not clear which one of these method steps corresponds to the "synthesis" of claim 11. Thus, the metes and bounds for which patent protection is being sought are not clear.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section

> 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. Claims 3-7, 9-10, 12-14, 16, 19-20, 24-28, 30, and 33-34 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Tonyali 5,401,787.

Tonyali teaches flame retardant insulation compositions comprising an ethylene-alkoxysilane copolymer and mineral filler and method of making and insulated wire, as required by claims 9, 10 and 14. See abstract, column 10, lines 40-42, column 3, lines 55-56, column 6, and lines 47-55. The alkoxysilane can be a trialkoxysilane and in present in amounts of 0.25 to 20 percent by weight, as set forth by applicants in claims 3-4, 16, 24-25, and 30. See column 2, lines 50-68. Also, the mineral filler is of the type contemplated by applicants and is selected from oxides of Al, Ti, and Zn, and silicates such as clay and mica, as required by claims 5-6, 19, 26-27, and 33 and can be added in amount of 2- 10 weight percent, per claims 7, 20, 28, and 34. See column 7, lines 33-34 and column 10, lines 34-38. In addition, Tonyali teaches that a catalyst of the type set forth by applicants in claim 12 can be added (note column 7, lines 47-48) and a

method of manufacturing a wire comprising applying the insulation on a wire and setting. See Example 1.

Tonyali is silent as to the property of the winding wire being able to withstand peak-to-peak voltages of up to 3 kV at a frequency of up to 20 kHz with rise times of up to 1 kV/μs at a temperature of up to 108°C in claims 1 and 14. In this regard, the composition of Tonyali is the same as or substantially similar to that contemplated by applicants. Accordingly, the examiner has reason to believe that the properties such as peak-to-peak voltages are the same as well, in the absence of clear factual evidence to the contrary. In the alternative, it would have been obvious to adjust the properties of the insulation by adjusting the amount of mineral filler present in the composition.

Therefore, the teachings of Tonyali anticipate or in the alternative render obvious the invention as claimed in present claims 3-7, 10, 12-14, 16, 19-20, 24-28, 30, and 33-34.

9. Claims 2, 5-6, 9-11, 13-14, 19, 23, 26-27, and 33 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Berger 4,499,149.

Berger teaches siloxane containing polymers comprising mineral fillers and method of making, per claims 9-10 and 13-14. The polymers can be polyimide, polyamideimide, polyester or polyurethane as required by claims 2 and 23. See abstract, column 2, lines 43-45, and column 54, lines 47-48. The polyimides are suitable as wire enamel and contain mineral fillers of the type contemplated by applicants in claims 5-6, 19, 26-27, and 33 (see column 36, lines 5-10). In addition,

Example XXXV of Berger teaches the synthesis of the polyimide coating performed using N-methylpyrrolidone solvent as required by claim 11, and Example XXXVII teaches applying this coating on a wire and setting the coating and that said coatings are useful in the manufacturing of windings, as required by claims 13 and 14. Berger additionally teaches solutions of polyamideimides containing siloxanes can be applied to electrical conductors such as wires because of their high temperature resistance and corona resistance, as contemplated by applicants in claims 13 and 14. See column 39, lines 48-57. The siloxanes of Berger are formed from alkoxysilanes, see column 67, lines 52-59. It should be noted that applicants' claim language in claim 9 of "a copolymer obtained from a thermoplastic or thermosetting resin and at least one alkoxysilane" does not exclude copolymers wherein the alkoxysilane is a precursor or intermediate.

Berger is silent as to the property of the winding wire being able to withstand peak-to-peak voltages of up to 3 kV at a frequency of up to 20 kHz with rise times of up to 1 kV/μs at a temperature of up to 108°C in claims 1 and 14. In this regard, the composition of Berger is the same as or substantially similar to that contemplated by applicants. Accordingly, the examiner has reason to believe that the properties such as peak-to-peak voltages are the same as well, in the absence of clear factual evidence to the contrary. In the alternative, it would have been obvious to adjust the properties of the insulation by adjusting the amount of mineral filler present in the composition.

Therefore, the teachings of Berger anticipate or in the alternative render obvious the invention as claimed in present claims 2, 5-6, 9-11, 13-14, 19, 23, 26-27, and 33.

10. Claims 3-7, 10, 12-16, 19-20, 24-28, 30, and 33-34 are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Borke et al, 6,197,864 B1 (Borke).

Borke teaches a composition suitable for wire and cable products comprising an ethylene-alkoxysilane copolymer and mineral filler, method of making and coated wire, per claims 9, 10, 13 and 14. See abstract and column 3, lines 65-67. The alkoxysilane is present in amounts within applicants' range as set forth in claims 3, 16, 24, and 30, and can be a trialkoxysilane as required by claims 4, and 25. See column 2, lines 40-41 and line 56. The mineral filler is of the type contemplated by applicants in claims 5-6 and 26-27, such as oxides of Ti, Zn, and Al, boron compounds and silicates (note column 6, lines 21-24) as well as clays and mica, as set forth in claims 19 and 33. In addition, Borke teaches that the mineral filler is present in amounts within applicants' range as required by claims 7, 20, 28, and 34. See column 10, lines 5-14. The comonomers are copolymerized with the alkoxysilane in the presence of a catalyst of the type set forth by applicants and the additives are added, per claims 10 and 12, wherein the insulation is applied on a wire and then set, per claim 13, said wire being coiled, per claim 15. See column 6, lines 36-39, column 7, lines 5-8, and column 11, lines 28-37.

Borke is silent as to the property of the winding wire being able to withstand peak-to-peak voltages of up to 3 kV at a frequency of up to 20 kHz with rise times of up to 1 kV/μs at a temperature of up to 108°C in claims 1 and 14. In this regard, the composition of Borke is the same as or substantially similar to that contemplated by

applicants. Accordingly, the examiner has reason to believe that the properties such as peak-to-peak voltages are the same as well, in the absence of clear factual evidence to the contrary. In the alternative, it would have been obvious to adjust the properties of the insulation by adjusting the amount of mineral filler present in the composition.

Therefore, the teachings of Borke anticipate or in the alternative render obvious the invention as claimed in present claims 3-7, 10, 12-16, 19-20, 24-28, 30, and 33-34.

11. Claims 8, 17, 18, 29, and 31-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tonyali 5,401,787 or Borke et al, 6,197,864 B1 each as applied above and each in view of Bambara et al, US 2003/0087976 A1 (Bambara), cited to show the state of the art.

Tonyali and Borke are each as applied above, but do not teach the specific surface area of the mineral filler, tetraalkoxysilane or the mineral filler being titanium dioxide. Regarding claims 18 and 32, Tonyali and Borke each teach that their compositions can contain fillers and pigments (Borke, column 7, line 32; Tonyali, column 7, line 5), but are not specific as to the particular type of pigment. Titanium dioxide is well known in this art as a pigment. Note the disclosure in Bambara, which teaches a silane-grafted polymer having a white color concentrate that comprises titanium dioxide, [0132]. It would have been obvious to one of ordinary skill in this art at the time the invention was made to modify the compositions of Tonyali and Borke by including a pigment as taught by each, wherein said pigment is selected from among those known in the art to be used with silane polymers, such as titanium dioxide, as was known in the art, evidenced by the teachings of Bambara, and with the reasonable

expectation of success of obtaining a composition with improved properties. As to claims 8 and 29, this limitation is drawn to the size of the mineral filler, wherein changes in size are not a matter of invention. As to claims 17 and 31, Tonyali and Borke each teach that the usage of alkoxysilane copolymers is known in the art in the formation of insulation composition. It would have been an obvious expedient to the skilled artisan to select the specific alkoxysilane, namely, tetraethoxysilane, commensurate with the desired properties of the end product. Moreover, since alkoxysilanes are well known in this art, the selection of a specific alkoxysilane over another is no more than a preferential selection of one alkoxysilane from among many used for its art recognized purpose. Furthermore, there is no clear evidence on this record of unexpected or patentably distinguishable properties of the resultant varnish, method or wire, said properties being directly related to the specific alkoxysilane and more specifically, directly related to tetraethoxysilane.

Response to Arguments

12. Applicant's arguments with respect to claims 2-20 and 23-34 have been considered but are moot in view of the new ground(s) of rejection.

No claims are allowed.

Conclusion

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jill M. Gray whose telephone number is 571-272-1524. The examiner can normally be reached on M-Th and alternate Fridays 10:30-7:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rena Dye can be reached on 571-272-3186. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jill M. Gray
Examiner
Art Unit 1774

jmg